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# **Middlesex House**

## **BREEAM Offices 2008 Pre-Assessment report** for Derwent London

September 2014

Verte Ltd 5 Torrens St, London, United Kingdom EC1V 1NQ Mobile: +44 7910 575279 Email. info@verteltd.com - Website. www.verteltd.com

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### **Executive Summary**

This report illustrates the potential ratings that the current design brief and proposals for the refurbishment of the car park of Middlesex House can achieve under the BREEAM 2008 scheme. A 'Target' rating has been established, which is based on current design proposals.

Following the pre-assessment meeting held on the 25<sup>th</sup> of October 2013 with Charlie Lacey of MAKE Architects, Craig Scott of GDMP Engineers and Neil Connelly of Rougemont Project Managers as well as Rigas Malamoutsis of Verte, a BREEAM 2008 Target rating of **56.90% - VERY GOOD** was confirmed.

As part of the design process some additional credits were identified and have now been included in the target. The current design stage rating is now as follows:

Ongoing Design Stage BREEAM 2008 Target Rating

#### 59.90% - VERY GOOD

- An Excellent rating would not be possible as 6 credits are mandatory under Ene1 to achieve this. The type of building and extent of works will make this impossible, as a minimum EPC of 47 would be required. It is anticipated that the current design could possibly achieve an EPC of 70-80.
- All required mandatory credits required to achieve a rating of Very Good have been targeted.
- The assessment attains as a minimum the following percentage of credits available in the following BREEAM Sections:
  - Energy 23.8%
  - Water 50.0%
  - Materials 76.9%

This report also outlines the processes that will be carried out by Verte Limited, the qualified and licenced BREEAM Assessors, the design team and the Main Contractor at Design Stage and Post Construction Review.

### Introduction

Verte have been commissioned by Rougemont to carry out a BREEAM assessment of the refurbishment of Middlesex House, 34-42 Cleveland Street, London, currently being re-developed by Derwent London/MAKE Architects. The proposal is to convert the basement of Middlesex House from a car park into B1 office floor space, with the addition of some new elements listed below:

- 1. New garden space.
- 2. New 'core' including toilets, showers.
- 3. Bike store.
- 4. Access platform lift.
- 5. Staircase down the ramp.
- 6. Screen to cover UKPN.
- 7. Doors to enclose the base of ramp.

Initial MAKE drawings and D&A statement have been reviewed to form an appraisal of the physical dimensions of the development. The proposal is to alter the basement of Middlesex House from a car park into B1 floor space. The scoping of the assessment has taken into consideration the general refurbishment to CatB works, including the changes and upgrading of the thermal envelope of the space. This is being achieved by the installation of slab insulation, most likely ThermaFloor by Kingspan, the replacement of window panes/units, and the inclusion of an ETFE roof over the access ramp, which although primarily functional will also improve the insulative properties of the envelope. Improvements also include the provision of new heating/cooling services, most likely via an underfloor delivery system.

For this reason, it has been decided the BREEAM assessment will be set-up as a major refurbished project, as opposed to the originally considered BREEAM Fit-out 2008.

A pre-assessment meeting was held on the 25<sup>th</sup> of October to review the current design proposals and form an initial potential rating under the BREEAM methodology. As the development is mainly CatB with some external area work and minor new building elements, the BREEAM 2008 Major Refurbishment scheme is deemed more suitable for its assessment, as it is tailored towards the evaluation and certification of works on existing buildings

This document therefore demonstrates the design team's commitment to bringing forward a sustainable commercial development in the London Metropolitan area, by providing a framework for achieving a BREEAM 'Very Good' rating for the proposed development.

### **Minimum Standards**

To achieve a BREEAM 2008 rating of VERY GOOD or EXCELLENT the minimum standards (i.e. number of credits achieved) applicable to that rating level should be complied with (see below table).

MINIMUM STANDARDS					
	PASS	GOOD	VERY GOOD	EXCELLENT	OUTSTANDING
BREEAM Issue					
Man 1 - Commissioning	1	1	1	1	2
Man 2 - Considerate Constructors	-	-	-	1	2
Man 4 - Building user guide	-	-	-	1	1
Hea 4 - High frequency lighting	1	1	1	1	1
Hea 12 - Microbial contamination	1	1	1	1	1
Ene 1 - Reduction of CO2 emissions	-	-	-	<mark>6</mark>	10
Ene 2 - Sub-metering of substantial energy uses	-	-	1	1	1
Ene 5 - Low or zero carbon technologies	-	-	-	1	1
Wat 1 - Water consumption	-	1	1	1	2
Wat 2 - Water meter	-	1	1	1	1
Wst 3 - Storage of recyclable waste	-	-	-	1	1
LE 4 - Mitigating ecological impact	-	-	1	1	1

The most crucial of the above standards with respect to achieving a potential rating of Excellent, is the requirement to achieve 6 credits under ENE1. Under BREEAM 2008 this is demonstrated by an EPC rating of <47.

### Assessment

#### **Pre-Assessment**

The first step in the pre-assessment is to assess the performance of the development against the relevant BREEAM 2008 criteria. Comments and actions have been listed in the Actions Register in the relevant section of this report, where details are provided on each credit issue and responsible party.

Following the pre-assessment meeting, it was established that based on current design proposals the development could achieve a target rating of 56.90% under the BREEAM 2008 scheme criteria, which corresponds to a rating of VERY GOOD.

It would not be possible for the development to target a higher rating as the basement location and minimal building fabric alteration potential, would preclude it from scoring a high EPC rating, currently a mandatory requirement for Excellent ratings. Due to the small size and minimal alterations, it would be impractical to target more credits since they would pose no benefit to the purpose of the use of the space.

Overall, the location of the development is advantageous with respect to the Transport section, which is usually positive in London central locations.

The Management, Water, Waste and Ecology sections have been nearly fully targeted.

The Materials section also poses many opportunities for a robust score, although attention is required with all new building elements, particularly with regard to Mat5, and further liaison with MAKE will ensure this is accomplished.

The development floor depth and existing structure is a challenge to scoring particularly well in the Health & Wellbeing and Energy sections, although it is believed the maximum potential scores have been assumed.

#### **Design Stage Assessment**

The design stage assessment process is based on the processing and assessment of Stage E drawings and specification issued by the design team and Main Contractor Preliminaries. This evidence shall be processed by Verte Limited, who are qualified and licenced BREEAM Assessors. The design stage assessment report and evidence shall be submitted to the Building Research Establishment (BRE), who will in turn review and quality assure the report submitted by Verte Limited.

The design stage assessment is on-going, and some additional credits have been identified which increase the target rating to 59.90% under the BREEAM 2008 scheme criteria, which corresponds to a rating of VERY GOOD.

#### **Post Construction Review**

During the BREEAM Post Construction Review, Verte Limited shall carry out the following actions with the design team and the Main Contractor:

- Once the Main Contractor is appointed, review all credits targeted with the Main Contractor to ensure they understand the requirements of each credit and their corresponding responsibilities;
- Review the targeted credits with the relevant design team members and ensure any design changes are indicated so that the BREEAM Assessor can ensure these changes are still compliant with BREEAM requirements;
- Hold review meetings with the design team and main contractor to discuss progress and to list out the evidence requirements; and
- Once the project is complete the BREEAM Assessor shall carry out a Post Construction Review Site Visit. During this site visit the assessor shall take photos of the development confirming that all the required actions have been carried out. Additionally any documentary

evidence required shall also be collected from the Main Contractor for final submission to the BRE.

- Final submission of the Post Construction Review to the BRE for auditing.

On-going Design Stage Register

/ Target Scoresheet

#### BREEAM Design Stage Register - Middlesex House Refurbishment 2008/RevE 20140909 BRE Reference: BREEAM-0050-4522

Refer to Main BREEAM Manual for the Compliance Requirements.

The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically) along with a statement were further explanation is required.

GREEN: Acceptable information submitted, no further action required.

AMBER: Further information or action required

RED: No information submitted

CONFIRMED: 48.76% GOOD PREDICTED: 59.90% VERY GOOD



ENHANCED: 64.22% VERY GOOD

<u>Ref.</u> <u>No.</u>	<u>Description</u>	Criteria	Credit Status	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA <u>Stage</u> <u>Required</u>	Actionee	Action/Evidence Required	<u>Comments</u>
Man 1	Commissioning	C. An appointee project cemmemories is appointed to monitor an appointing precommanding, commissioning and where necessary, economissioning on behavior and SBATA and CIBSE2 guidelines, where applicable. 3. The main norgament of works. 4. A specialist commissioning manager is appointed (by either client or contractor) for complex systems such as: A applicable. Whether and programme response billities and criteria within the main programme of works. 4. A specialist commissioning manager is appointed (by either client or contractor) for complex systems such as: A acconditioning Metchanical ventilation, displacement ventilation, complex passive ventilation Building management systems (IMSE) Enterwable energy sources Microbiological safety cabinets and fume cupboards Cold storage ecological safety cabinets and fume cupboards Dial storage incomissioning manager must have been appointed during the design stage and the specific during instantion of the storage of the storage sources and information tage. S where BMS specifies in stand were twents construction programming Commissioning management input during installation stages. S where BMS specifies and were folger eviews Commissioning and were folger eviews Commissioning and were folger eviews in addition to an adveet register scale count when all control devices are imitalied, where and evidence to commissioning procedures must be carried out: a commissioning and were folger evides. Commissioning and adveet folger evides is carried out when a control devices are imitalied, where and evidence were based to commission and adveet prost and adveet folger appointed measurements of nom temperatures, of cold temperatures and adveet programmers as appropriate measurements of nom temperatures, of cold temperatures and other key parameters as appropriate of the BMS specifies that billowing commissioning results include physical measurements of room temperatures, of cold temperatures and other key parameters as appropriate of the BMS specifies thad the specifies or temperatur	GREEN	1	1	0	1	D, F		First Credit REC1E4 A copy of a letter or commissioning responsibilities schedule confirming the appointment of [or commitment to appoint]: Design team member(i) a scommissioning monter and scope of their commissioning role. Specialitic commissioning manager and scope of their commissioning role. REQ2 A copy of the specification clause stating: The standards and codes of practice to which commissioning procedures are to comply with. REQ3 A copy of the specification clause confirming: The managing contractor's responsibilities with respect to this requirement. OR A copy of a commissioning schedule highlighting: Managing contractor's commissioning responsibilities. REQ5 A copy of the specification clause confirming: The stages of the BMS/Controls commissioning procedures.	15/04/14: CREDIT AWARDED using Appendix J of the Prelims. Validation Statement The Main Contractor prelims (Ref 1) confirms that the commissioning shall be carried out in line with requirements and include the following actions: The contractor shall account for the commissioning programme, responsibilities and criteria within the main programme of works. The contractor shall ensure that an appropriate project team member(s) is appointed to monitor and programme pre-commissioning, commissioning and, where necessary, recommissioning on behalf of the client. Commissioning to be carried out in line with current Building Regulations and BSRIA and CIBSE guidelines, where applicable. The contractor will ensure that a specialist commissioning manager is appointed (by either client or contractor) for complex systems such as (where present): - Air conditioning - Ventilation Systems (mechanical, displacement or complex passive) - Building management systems (BMS) - Renewable energy sources Where a BMS has been specified, the contractor must ensure that the following
Man 1	Seasonal Commissioning	1. The first credit has been achieved. 2. The above appointment(s) include the following pressonal commissioning responsibilities over a minimum 12 month period, once the building becomes occupied: Complex Systems — Specialist commissioning manager a. Testing of all building services under full load conditions, Le heating equipment in mid-winter, colonily-wintation equipment in missioning manager and the applicable testing should also be carried out during periods of atterme (high or low) accupancy c. Interviews with building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems d. Re-commissioning of systems (following any work needed to serve revised loads), and incorporating any revisions in operating procedures into the O&M manuals.		1	0	0	0	F	Contractor/P relims	Second Credit 1 Evidence (as outlined above) confirming compliance with the first credit. 2 As evidence criteria for 1 & 3 of the first credit. This evidence must confirm the scope of seasonal commissioning responsibilities/tasks (as required).	The project size does not warrant seasonal commissioning.
Man 2	Considerate Constructors	2 credits are available where the main contractor has compiled with and achieved formal certification under the Considerate Constructors Scheme(CC3), credits awarded as follows: - One credit where the contractor achieved a CCS Code of Considerate Practice score between 24 and - Nor credits where the contractor achieved a CCS Code of Considerate Practice score between 32 and 32.5. J further innovation credit is available where the main contractor has compiled with and achieved a certified CCS Code of Considerate Practice score of 36 or more.	GREEN	2	2	0	2	F	Contractor/P relims	1 A copy of the relevant section of the main contract specification confirming:     • A requirement to comply with the CCS     • The minimum score to be achieved in each CCS section.     OR     A formal letter from the client/developer confirming:     • The main contract will include a clause requiring CCS certification     • The scope of the main contractor's works     • A completed copy of checklist A1.     2 A copy of the assessment complete facility of a size scope complete the scaling A formal letter from the client of scope confirming:     A formal letter from the client of face hone confirming:     A complete letter face hone confirming:     A formal letter from the client diseloser confirming:	15/04/14: TWO CREDITS AWARDED using Appendix J of the Prelims. Validation Statement The Main Contractor prelims (Ref 1) confirms that the Main Contractor is required to register the development with the Considerate Constructor Scheme, achieve 35 points or more and achieve a minimum of 7 points in each Considerate Constructor Scheme section. The CCS Site Monitor Report provided by TTP (Ref 02) confirms that a score of 37 points has been achieved and that a minimum of 7 points in each section has been

Ref. No.	Description	Criteria	<u>Credit</u> <u>Status</u>	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA Stage Required	Actionee	Action/Evidence Required	<u>Comments</u>
Man 3	Construction site impacts	1. Three credits where evidence provided demonstrates that 6 or more of items a g (listed below) achieved: a Monitor, report and set targets for CO2 or energy arising from strangort to and from site 0. Monitor, report and set targets for CO2 or energy arising from stranget from site activities d. Implement best practice policies in respect of air (dust) politicin arising from site activities e. Implement best practice policies in respect of water (ground and usingles) politicin or materials to be utilised on site 0. Monitor, or port particle policies in respect of water (ground and usingles) politicin materials to be utilised on site 0. Monitor, or port particle policies in respect of water (ground and usingles) politicin materials to be utilised on site 0. Monitor, or port partice and the information of the site 0. Monitor for the site 0. Monitor, or port partice process are detailed in the relevant section of Checklist A3. 2. One cordit where velocies provided demonstrates that at least 80% of site timber is responsibly sourced and 100% is legally sourced.	GREEN	4	3	0	3	т.	Contractor/P relims	A copy of the relevant section from the main contract specification/or Prelims confirming: • Contractor's obligations in respect to each item on checklist. • Site timber will be sourced from suppliers capable of providing certification to the level required for the particular tier claimed FSC/(see table 1 of BRELAM credit KM-15) • All timber will come from a "legal source" and is not on the GTES list*.	15/04/14: THREE CREDITS CAN BE AWARDED Validation Statement The Main Contractor Prelims (Ref 1) confirm that the Main Contractor is required to achieve and carry out the following activities: 1) The contractor must ensure that at least 80% of site timber is responsibly sourced by being independently certified by the FSC, CSA, SFI with Chain of Custody or PEFC chemes. This includes formwork, site hoardings and other temporary site timber used for the purpose of facilitating construction. In addition the contractor must ensure that 100% of all site timber will be legally sourced and not on the CITES list. 2) The contractor shall undertake 6 or more of the following during the construction phase: a. Monitor, report and set targets for CO2 or energy arising from site activities b. Monitor, report and set targets for CO2 or energy arising from site activities c. Monitor, report and set targets for water consumption arising from site activities d. Implement best practice policies in respect of air (dust) pollution arising from the site e. Implement best practice policies in respect of water (ground and surface) pollution occurring on the site f. Main contractor has an environmental materials policy, used for sourcing of construction materials to be utilised on site g. Main contractor operates an Environmental Management System. These three credits can be awarded.
Man 4	Building user guide	1 Credit is available where a Building User Guide has been developed, that is relevant to the non- technical building user and appropriate to the stakeholders) that will occupy the building.	GREEN	1	1	0	1	F	Contractor/P relims	182 A copy of the specification clause confirming: • Requirement to develop a Building User Guide • Scope of the Guide's contents. OR A formal letter from the client/developer confirming: • That the design team will be required to develop a Building User Guide. • The content of the Guide will be developed in compliance with the BREEAM requirements.	15/04/14: THISCREDIT CAN BE AWARDED Validation Statement The Main Contractor Prelims (Ref 1) confirm that the Main Contractor is required to prepare a compliant Building User Guide relevant to both the facilities managers and the building users. The Building User Guide will include all the required topics and will be provided to the future building occupiers. This credit can be awarded.
Man 8	Security	One credit is available when the design team has consulted with and sought the advice of the local police Architectural Lakon Officer (ALO) or Crime Prevention Design Advisor (CPDA) on designing out the opportunity for crime, in accordance with the principles and guidance of Secured by Design7. 2. Computation with the ALO/CPDA corred during or prior to the concept design tage (IBA stage C) or equivalent. 3. The final design embodies the recommendations of the ALO/CPDA and is built to conform to the principles and guidance of Secured by Design.	RED	1	0	1	0	c	MAKE	18.2. Correspondence from or a copy of the report/feedback from the ALO/CPDA     confirming:         Scope of their advice/involvement         The stage of design in which their advice was sought         Summary of their recommendations         A marked-up copy of the site/design plan(s) highlighting examples of:         The development conforming to         ALO/CPDA recommendations and SBD principles and guidance.         OR         If the timing of assessment does not permit the above, a copy of the specification         classes confirming:         The development will conform to ALO/CPDA recommendations and SBD         principles and guidance.         If development will conform to ALO/CPDA recommendations and SBD         principles and guidance.         If the specification	02/07/14: Make provided the evidence and the main concern at the moment is with the recess. Verte have asked Make to consult with the ALO/CPDA to check whether they will accept the reduced recess and confirmation that consultation took place at Stage C or if it happened later this did not impact on the consultation. 13/05/14: Make confirmed that the consultation has been made. Make to discuss the recommendations with TTP. The project type and size does not warrant this level of consultation. MAKE to contact ALO as soon as possible for evidence of initial consultation.
Hea 3	Glare control	<ol> <li>An occupant-controlled shading system on all windows, glazed doors and rooflights in all relevant building areas.</li> </ol>		1	0	0	0	F		<ol> <li>Marked-up copy of the design plan(s) confirming:</li> <li>A description of the function of each of the building spaces.</li> <li>A copy of the relevant specification clause(s), window xchedule or design plan confirming:</li> <li>Type of rahading system(s) and control to be installed.</li> <li>Marked-up copy of the design plan(s) demonstrating:</li> <li>The design measures that limit gare in all other occupied areas.</li> </ol>	Basement location makes this credit unachievable as all usable light will be allowed to ingres.
Hea 4	High frequency lighting	1 Credit is available where high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.	GREEN	1	1	0	1	F	GDMP Elec	<ol> <li>A copy of the specification clause or room data sheets confirming:</li> <li>A compliant lighting strategy.</li> </ol>	30/04/14: CREDIT AWARDED Validation Statement: The Specification Document - BREEAM Compliance Document - confirms that all compact fluorescent and fluorescent lighting will be fitted with high frequency ballasts. This credit can be awarded.

Ref. No.	Description	<u>Criteria</u>	Credit Status	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA Stage Required	Actionee	Action/Evidence Required	<u>Comments</u>
Hea 5	Internal and external lighting levels	1 Credit is available where all internal and external lighting, where relevant, is specified in accordance with the appropriate maintained illuminance levels (in lux) recommended by CIBSE.	GREEN	1	1	0	1	Ε	GDMP Elec	Please provide: ETHER A copy of the specification or relevant room schedules confirming: • The interrupt-termal maintained illuminance levels NNU/OR • The standards that the illuminance levels are specified to. OR A formal written declaration of conformity from the relevant member of the design team confirming: • The maintained illuminance levels for each internal/external space are in compliance with the relevant Standard.	30/04/14: CREDIT AWARDED Validation Statement The specification document / BREEAM Compliance Documentation (Ref 01) confirms the lighting will need to be compliant with the following: Illuminance (lux) levels in all occupied internal areas of the building (a room or space within the building that is likely to be occupied for 30 minutes or more by a building user) shall be in accordance with the CIBSE Code for Lighting 2006. For areas where computer screens are regularly used, the lighting design shall comply with CIBSE Lighting Guide 7 sections 3.3, 4.6, 4.7, 4.8 and 4.9, with particular reference to: - Limits to the luminance of the luminaires, to avoid screen reflections. (Manufacturers' data for the luminaires, should be sought to confirm this). - Dy-lighting, the recommendation of the luminainee of the lit ceiling rather than the luminance; - Direct lighting, ceiling illuminance, and average wall illuminance. Illuminance levels for lighting in all external areas within the construction zone shall be in accordance with CIBSE Lighting Guide 6, 'The outdoor environment'. GDMP Elec to ensure inclusion in specification of systems.
Hea 9	Volatile organic compounds	Products have been tested against and meet the relevant standards outlined in the table within the BREEAM Manual for Volatile Organic Compound (VOC) emissions		1	0	1	0	E-F	MAKE	1 A copy of the relevant specification clause confirming: • The VOC content of the relevant specified product types will comply with the standards specified above Although these standards can be include din the Prelims, the specifier must be confident that materials specified comply.	09/05/14: TTP confirmed that this credit would be explored at the construction stage. This would be difficult to achieve. MAKE to review proposals and assess compliance of all relevant elements. These would include: -Any WC area Marmoleum/Lino flooring -Adhesives used in the screeded finish -Pipwood
Неа 10	Thermal comfort	1 credit is available where: Thermal modelling has been carried out using software selected and applied in accordance with CIBSE AM11 Building therapy and Environmental Modelling . The modelling demonstrates that the building design and services strategy can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in CIBSE Guide A Environmental Design :in particular that internal wither and summer temperature ranges will be in line with the recommended confort criteria in table 1.2 of the Guide. The software used to carry out the simulation at the detailed design stage must provide full dynamic thermal analysis. For smaller and more basic building designs an alternative less complex means of analysis may be appropriate (such methodologies must still be selected and applied in accordance with CIBSE AM11).	RED	1	1	0	0	CĐ	GDMP Mech	Requirements are: 1. Thermal modelling has been carried out using software selected and applied in accordance with CIBSE AML1 "Building Energy and Environmental Modelling" [1]. 2. The modelling demonstrates that the building design and services strategy can deliver themal comfort levels in occupied space in accordance with the requirements set out in CIBSE Guide A "Environmental Design" [2]. In particular that internal wither and summer temperature ranges will be in line with the recommended comfort criteria in table 1.5 of the Guide. Please provide: 18.3 A copy of the relevant specification clause confirming: 18.3 A copy of the relevant specification clause confirming: 0.0 R Correspondence (e.g. letter, email or meeting minutes) from the design team confirming: 1. The software has been selected and applied in accordance with the according with a base measured and applied in accordance with the selection with CIBSE AML1. 2 A copy of the results from the modelling demonstrating the internal temperatures in compliance with the relevant standards.	Pending information: Thermal Comfort modelling has been targeted based on pre-planning discussions. This pertains to comfort and overheating issues, NOT EPC/SBEM. GDMP Mech to coordinate thermal modelling.
Hea 11	Thermal zoning	1. The heating/cooling system is designed to allow occupant control of zoned areas within all occupied spaces in the building. 2. The pointing above separate accupant control (within the occupied space) of each perimeter area (i.e. within 7m of each external wall) and the central zone (i.e. over 7m from the external walls). With regards to local occupant control, IRE FAG state: Where user controls of the heating/cooling are not provided within the individual functional areas, the heating/cooling of functional areas to the heating/cooling in the external walls excurpted a state is white excurpted of functional areas to the heating/cooling in the exist.	RED	1	1	0	0	E-F	GDMP Mech	<ul> <li>18.3 A copy of the relevant clauses of specification and/or marked up M&amp;E drawlog confirming:</li> <li>- Scope of the hearing/cooling system</li> <li>- The type of user control for the above systems</li> <li>- The scope of the control i.e. control zone.</li> <li>Please also provide a brief description/statement in support of this credit.</li> </ul>	Pending Information A letter confirming that the under floor heating is considered to be a responsive system. Additionally the letter should include some detail explaining how the different zones will be controlled locally by the development users. (A template letter has not been provided for this item). GDMP Mech confirm that the zoning strategy will comply to the control requirements and zoning criteria. Heating/cooling to potentially be delivered by underfloor system. Zoning layout drawings as well as a description of the controls to be provided.

<u>Ref.</u> <u>No.</u>	Description	Criteria	Credit Status	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA <u>Stage</u> <u>Required</u>	Actionee	Action/Evidence Required	<u>Comments</u>
Hea 12	Microbial contamination	1 Credit is available where the risk of waterborne and airborne Legionella contamination has been minimised.	GREEN	1	1	0	1	E-F	GDMP Mech	Please include in specification reference to CIBSE TM13 and/or ACoP8 compliance and provide: 18.2 A copy of the relevant specification clauses() confirming: • All types of water system in the building and on the assessed site. • The standards to which all water systems in the building will be designed.	16/04/14: 1 CREDIT AWARDED Validation Statement The Specification Document / BREEAM Compliance Document confirms the following: All water systems in the building are designed in compliance with the measures outlined in the Health and Safety Executive's "Legionnaires' disease - The control of legionelia bacteria in water systems". Approved Code of Practice and guidance, 2000 & CIBSE TM13 Minimising the risk of Legionnaires disease, 2002. Water systems includes the following: - Cooling towers - Evaporative condenser - Domestic hort and cold water systems Other plant and systems containing water which is likely to exceed 20°C and which may release a spray or aerosol during operation or when being maintained, for example: - humidifiers and air washers - spa baths and pools - car/hous washes - wet scrubbers - indoor fountains and water features. Where humidification is installed, steam humidification shall be used to provide a failaafe system.
Hea 13	Acoustic performance	1. Indoor ambient noise levels in unoccupied staff/office areas comply with the following: a.s. 4081. Leve, T in single occupancy offices b. 405-05081. Level. The multiple occupancy offices c.s. 400 at Level. To an unitable occupancy offices c.s. 400 at Level. To an unitable occupancy offices c.s. 400 at Level. To an unitable occupancy offices c.s. 400 at Level. To an unitable occupancy offices c.s. 400 at Level. To an unitable occupancy offices c.s. 400 at Level. To an unitable occupancy offices c.s. 500 at Level. To an unitable occupancy offices c.s. 500 at Level. To an unitable occupancy offices c.s. 500 at Level. To an unitable occupancy offices c.s. 500 at Level. To 3.1 of IdSS23242 as follows: a. Dw - Level. To 3. The design (or measured) indoor ambient noise level in the space adjacent to the acousticially sensitive room. 3. Pre-completion acoustic testing is carried out by a suitably qualified acousticiant onessure that all relevant spaces (as built) achieve the performance standards required, and any required remedial works in spaces that do not meet the standards are completed prior to handover and occupation.		1	0	0	0	C-D	MAKE	Specification clauses and calculations to be submitted in line with BREEAM puldance. Please provide: 1-3 A copy of the design plan for each level of the building with each room/area clearly labelled. A copy of the specification clause or acousticians calculations confirming: I indoor ambient noise levels in each relevant room/area Sound insulation levels between each acoustically sensitive room and adjacent coupied areas. • The standards to which calculations/measurements have compiled, or are required to comply with. 4.86 A copy of the specification clause or a formal letter from the project team confirming: • Aprogramme of pre-completion acoustic testing by a suitably qualified acoustican will be commissioned.	It is advised that this is not part of the project scope. A preliminary acoustic review and report would be required.
Ene 1	Reduction of CO <sub>2</sub> emissions	Up to 15 Credits are available where evidence provided demonstrates an improvement in the energy efficiency of the building's fabric and services and therefore achieves lower building operational related CO2 emissions. The number of credits achieved is determined by the building's CO2 index (EPC Rating), taken from the Energy Performance Certificate (EPC).	RED	15	2	0	0	C-D	GDMP Mech	A copy of the EPC output using approved software compilant with the National Calculation Method, for the assessed building at the design stage, must be provided. The EPC must include the Accredited Energy Assessor's nume and accreditation number	Pending Information A copy of the latest/draft EPC is required based on as-designed information. GDMP Mech advise that an EPC of 87 should be achievable. 2 credits assumed. This could elevate once further modelling has been carried out.
Ene 2	Sub-metering of substantial energy uses	1 credit is available where separate accessible energy sub-meters, labelled with the end energy consuming use, are provided for the following systems (where present): a. Space Heating b. Domestic Not Water c. Fundidification d. Cooling e. Franc (major) f. Lighting and small power can be on the same sub-meter where supplies are taken at b.ch floor/dispersent. b. Other major energy-consuming items where appropriate	GREEN	1	1	0	1	DE	GDMP Elec	All Specification document or technical drawings confirming: Energy-consuming systems and their rated outputs Metering arrangements for each system, type and location of meter specified. If applicable, cope of BMS and is energy-monitoring capability. Please also provide a brief description/statement in support of this credit.	30/04/14: CREDIT AWARDED Validation Statement The specification document / BREEAM Compliance Document (Ref 01) provided by GDMP confirms the following: Separate accessible energy sub-meters, labelled with the end energy consuming use, shall be provided for the following systems (where present): - Space Heating - Domestic Hot Water - Cooling - Fans (major) - Lighting - Small Power (lighting and small power can be on the same sub-meter where supplies are taken at each floor/department). - Transportation systems - Other major energy-consuming items where appropriate (e.g. plant used for swimming or hydrotherapy pools, kitchen plant, cold storage plant). The energy meters shall be located in an area of the building staff and facilities manager. Typically this will be the plant room, main distribution room or control room. This credit can be awarded.

Ref. No.	Description	<u>Criteria</u>	Credit Status	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA Stage Required	Actionee	Action/Evidence Required	<u>Comments</u>
Ene 3	Sub metering of high energy load areas and tenancy	1 credit is available where there is provision of accessible sub-meters covering the energy supply to all tenanted, or in the case of single occupancy buildings, relevant function areas or departments within the building/unit. The meters are labelled with the end energy consuming use.	GREEN	1	1	0	1	DE	GDMP Elec	1 Marked-up drawings and site plan detailing: • Building areas by department/function and/or tenancy • Location of meters. • Technical drawings confirming: • Metering arrangements for each department/function and/or tenancy area • Type of meter specified. Please also provide a brief description/statement in support of this credit.	30/04/14: CREDIT AWARDED Validation Statement The specification document / BREEAM Compliance Document (Ref 01) provided by GDMP confirms the following: Accessible sub-meters shall be provided to cover the energy supply to all tenanted, or in the case of single occupancy buildings, relevant function areas or departments (e.g., catering facilities or office areas metered by floor plate) within the building. This includes the metering of all types of energy supplied to a building area (department / tenancy / unit) within the boundary of the development; including electricity, gas, heat or other from of energy/fuel which is consumed as a result of the use of and operations within each relevant area. The meters shall be labelled with the end energy consuming use. The energy meters must be located in an area of the building that allows for easy access to facilitate regular monitoring and readings by the buildings staff and facilities manager. Typically this will be the plant room, main distribution room or control room.
Ene 4	External lighting	<ol> <li>credit la available where:         <ol> <li>All external light fittings for the building, access ways and pathways have a luminous efficacy of at least to lump lumens/circuit Watt when the lamp has a colour rendering index (Ra) greater than or equal to 60. OR 60 lump Lumens / circuit Watt when the lamp has a colour rendering index (Ra) less than 60.</li> <li>All external light fittings to car parking areas, associated roads and floodlighting has a luminous efficacy of at less 10 lump lumens/circuit Watt when the hamp has a colour rendering index (Ra) less than 60.</li> <li>All external light fittings for signs and uplighting have a luminous efficacy of at less than 63.</li> <li>All external light fittings for signs and uplighting have a luminous efficacy of at less than 9.</li> <li>All external light fittings for signs and uplighting have a luminous efficacy of at less than 60.</li> <li>All external light fittings are controlled through a time switch, or daylight sensor, to prevent operation during daylight hours. Daylight sensor override on a manually switched lighting circuit is acceptable.</li> </ol> </li> </ol>	GREEN	1	1	0	1	Ef	GDMP Elec	Drawing: / specifications and evidence to be submitted in line with BREEAM guidance as per below: 1. All external light fittings for the building, access ways and pathways have a tunnious offectory of a teast 30 pan jumeny/circuit Matt when the line ph as a colour rendering index (fa) greater than or equal to 60. OR 60 pan jumens/ / circuit Watt when the lamp has a colour rendering index (fa) less than 60. 2. All external light fittings to car parking areas, associated roads and flootilghing has a laminous offectory of at less 40 pan jumens/circuit Watt when the lines has a colour rendering index (fa) greater than or equal to 60. OR 80 lamp Lumens / circuit Watt when the lamp has a colour rendering index (fa) less than 60. 3. All external light fittings for signs and upliphting have a luminous officacy of at teast to 2500. OR 50 lamp Lumens/circuit Watt when the lines wattage is greater than or equa to 2500. OR 50 lamp Lumens/circuit Matt when the lines wattage is less than 2500.	30/04/14: CREDIT AWARDED Validation Statement The specification document / BREEAM Compliance Document (Ref 01) provided by GDMP confirms the following: All external light fittings for the building, access ways and pathways shall have a luminous efficacy of at least 50 lamp lumens/circuit Watt when the lamp has a colour rendering index (Ra) greater than or equal to 60. OK 60 lamp Lumens / circuit Watt when the lamp has a colour rendering index (Ra) less than 60. All external light fittings to car parking areas, associated roads and floodlighting has a colour rendering index (Ra) greater than or equal to 60. OK 60 lamp Lumens / circuit Watts when the lamp has a colour rendering index (Ra) less than 60. All external light fittings for signs and uplighting have a luminous efficacy of at less 60 lamp lumens/circuit Watt when the lamp wattage is greater than or equal to 25W. OR 50 lamp lumens/circuit Watt when the lamp wattage is less than 25W. External light fittings for signs and uplight hours. Daylight sensor, or daylight sensor, to prevent operation during daylight hours. Daylight sensor override on a manually switched lighting circuit is acceptable. The above criteria applies to decorative lighting and floodlighting. Any fitting that consumes less than 5W, provides an equivalent amount of light for the necessary task and that allow a direct replacement for an alternative is
Ene 5	Low or zero carbon technologies	1 Credit A feasibility study has been carried out at RIBA stage C or equivalent procurement stage, by an energy specialist to establish the most appropriate local (on-site or near-stel JZC energy source for the building/development. Alocal IZC energy technology has been specified for the building/development in line with the recommendations of the above feasibility study. 2 credits Based on the recommendations of the feasibility report, the LZC technology installed results in a 10% recertise Based on the recommendations of the feasibility report, the LZC technology installed results in a 15% reduction in the building's CO2 emissions.		3 +1 INNO.	0	0	0	B, E-F		First Credit 18.3 A copy of the feasibility study report. Letter from the energy specialist confirming: • Compliance with the definition of an energy specialist The timing of the feasibility report within the plan of works. 21 Marked-up design plan or specification confirming: • Proposed initialization of L2C energy technology. Manufacturer's technical data and defails or calculations stating the carbon saving sia ar easil of the installed L2C technology. Second, Third & Exemplary Level Credit 1 Evidence (as outlined above) confirming compliance with the first credit. 1.28.3 A copy of the report produced by the approved energy modelling • Onorhimation of the expertise and experience of the individual carrying out the monomissions for the assessed building (without L2C energy technology). And Calculations objusting from the manufacturer, supplier, engineer or approved software confirming: • Total carbon savings as a result of the installed L2C technology.	It is not anticipated an LZC study will be carried out due to the location and type of the property. It could be possible to achieve at a cost but for no practical reasons.
Tra 1	Provision of public transport	Up to five Cridlis can be awarded on a sliding scale based on the assessed buildings' accessibility to the public transport network.	GREEN	3	3	0	3	A-8	Verte	Information to complete BREEAM calculator tool TRA 1, and supporting evidence in line with BREEAM guidance. Please provide: 1 A copy of the output from the Tra1 Provision of Public Transport calculator. 2 Scale map highlighting the location of the building and all public transport nodes in proximity of the building. Timetables for each service at each public transport node considered.	16/04/14: These three credits are awarded. Validation Statement The site is located in London city centre. The PTAL Rating was generated using the Transport for London website (http://www.webptals.org.uk/). The site's postcode, W1T 41Y, has been inputted into the website which confirms the site has a PTAL rating of 6b. The print screen for the PTAL rating has been provided (Ref 01) and so has the PTAL rating summary generated by the PTAL website (Ref 02). This rating equates to an accessibility index of >25. The three available credits are therefore achievable at this site.

Ref. No.	<b>Description</b>	<u>Criteria</u>	Credit Status	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA <u>Stage</u> <u>Required</u>	Actionee	Action/Evidence Required	<u>Comments</u>
Tra 2	Proximity to amenities	1 Credit can be awarded where evidence provided demonstrates that the building is located within 300m of the following amenities: a. Gracery shop and/or food outlet b. Post box c. Cash machine	GREEN	1	1	0	1	A-B	Verte	Please provide: Marked-up site plan or map highlighting: • Location on tracessed building • Location and hype of amenities • Intervole to the smenities • Plan/map scale • Plan/map scale • The context of the amenities to a provided • The Location and type of amenites to be provided • The timescale for development of the amenities.	16/04/14: These three credits are awarded. Validation Statement The site is located in London city centre. The map provided (Ref 01) indicates the location of a post box, a cash machine and a food outlet within 500m of the development. The amenities are accessible along safe and accessible pedestrian routes as indicated on the map. A – Site of development B – Location of two sandwich shops – 70m C – Location of Post Box – 180m D – Location of Tesco Metro / Cash Machine – 350m
Tra 3	Cyclist facilities	Where evidence provided demonstrates that covered, secure and well-lit cycle storage facilities are provided for all building users. First Credit A It least 10 publicly accessible compliant cycle storage spaces are within proximity of the main shop enfrance i.e. 100m. Second credit in addition to above, at least two of the following compliant facilities must be provided for the full-time equivalent staff: a. Compliant bowers b. Compliant changing facilities and lockers for clothes c. Compliant drying space for wet dothes	GREEN	2	2	0	2	Df	МАКЕ	<ul> <li>First Credit</li> <li>Site plan, design drawings and/or a copy of the specification confirming: <ul> <li>ne number of cycle storage facilities</li> <li>ne number of cycle spaces provided</li> </ul> </li> <li>The hype, dimensions and layout of cycle and the facility. <ul> <li>ne hype, dimensions and layout of cycle and the facility.</li> <li>ne highing for the facility is in accordance with BS5489 Part 1.</li> <li>audition of the cycle and the specified for the facility.</li> <li>ne highing for the facility is in accordance with BS5489 Part 1.</li> <li>audition of cycle and the specified for the facility.</li> <li>ne highing for the facility is in accordance with BS5489 Part 1.</li> <li>audition of the cycle and the specification confirming:</li> <li>neither of showed</li> <li>audition of the specification confirming.</li> <li>audition of the specification confirming control and the specification confirming the relevant momber of accord the specification confirming.</li> <li>audition of the cycle showed confirming compliance with the first credit.</li> <li>audition of the specification confirming.</li> <li>audition of the specification confirming compliance with the first credit.</li> <li>busing for accord the specification confirming.</li> <li>audition of the specification confirming compliance with the first credit.</li> <li>busing for accord the specification confirming.</li> <li>audition of the specification confirming compliance with the first credit.</li> <li>busing for accord the specification confirming.</li> <li>audition of the specification confirming compliance with the first credit.</li> <li>busing for accord the specification confirming.</li> <li>audition of the specification confirming compliance with the first credit.</li> <li>busing for accord the specification confirming compliance with the first credit.</li> </ul></li></ul>	24/06/14: CREDITS AWARDED Validation Statement The site is located in London City Centre and achieves all three credits under Tra 01. In view of this the cyclist facilities requirements can be reduced by 50%. The marked up drawing (Ref 02) provided by Make Architects confirms a net lettable area of 12005gm, taking into account the 50% reduction in requirements the number of racks required is 6. The following facilities are being provided: - 27 cycle racks. These are a proprietary system (Josta Wall Rack) which allows for a single bike to be locked to each rack; - 26 lockers are being provided.; - Two showers with changing area, shelf, bench and hooks being provided; - The locks Will Rack shall be provided with the additional u-shaped security bar which will allow the frame to be secured. - The lockers will have minimum dimensions of H.900mm X W.300mm x D-350mm). - The distance between the racks, which will allow for each bike to be removed without the need of moving neighbouring bikes. These two credits can be awarded.
Tra 4	Pedestrian and cycle safety	2 2 credits are available where external site areas form part of the assessed site and these areas contain vehicle access roads, parking and/or pedestrian access to the building, adequate cycle lanes and pedestrian pathways must be provided. If the building does not have any external areas and internal access is directly from the public highway/footpath, then the credit(s) can be avarded on a default basis. The first credit relates cycle access criteria and the second credits relates to pedestrian access criteria. Please refer to the BREEAM manual for detailed compliance requirements.	GREEN	1	1	0	1	D-F	MAKE	1 & 3-9 A scaled proposed site plan, specification and/or design details highlighting all necessary features and dimensions. 2 A copy of the specification or scaled proposed site plan confirming: <ul> <li>Cycle routes have been or will be designed in accordance with the best practice guidance[]</li> <li>NNO</li> <li>A signed and dated copy of the NCN Design and Construction Checklist from the design/project team (or completed by the assessor using design information).</li> <li>10 A copy of the specification are plan and/or manufacturer/s technical details. confirming:</li> <li>External lighting design strategy.</li> </ul>	16/04/14: CREDIT AWARDED Validation Statement The Lower Ground Floor Plan (Ref 01) and the Ground Floor Plan (Ref 02) confirms that there is no external area to this development and that access is directly off the public realm. This credit can be awarded by default. This credit can be awarded.
Tra 5	Travel plan	I Credit available where evidence provided demonstrates that a travel glan has been developed as part of the feasibility and design stages and tailored to the specific needs of the building users. The travel plan is structured to meet the needs of the particular site and takes into consideration the findings of a site specific transport survey and assessment. The travel to include: a capitage of mesures that have been used to steer the design of the	GREEN	1	1	0	1	C-D	VERTE	Please provide: 1-3 A copy of the Travel Plan. A copy of the site-specific transport survey/assessment. 3 A marked-up copy of the site plan demonstrating examples of design measures implemented in support the travel plan's findings. DR	24/06/14: CREDIT AWARDED Validation Statement: The travel plan provided is compliant. This credit can be awarded.
Tra 6	Maximum car parking capacity	First credit 1. No more than one parking space is provided for every three building users. Second credit 1. No more than one parking space is provided for every four building users.	GREEN	2	2	0	2	D-F	MAKE	A site plan or copy of the specification confirming: • Number and type of parking spaces provided for the building. 1 Relevant documentation or correspondence from the design team or client confirming the number of building users.	16/04/14: CREDITS AWARDED Validation Statement The Lower Ground Floor Plan (Ref 01) and the Ground Floor Plan (Ref 02) confirms that there is no external area to this development and that no car parking is provided as part of this development. These two credits can be awarded.
Wat 1	Water consumption	Up to 3 Credits are available where evidence provided demonstrates that the specification includes tags, utinals, WCs and showers that consume less potable water in use than standard specifications for the same type of fittings. First credit - All WCs have an effective fluxh volume of 4.5 litres or less. - Where dual fluxh toils are specified here have evidence or symbols instructing the user on the appropriate operation of the fluxhing device. This can be provided on the flush control buttons, cistem, or nearby for a group of cistems. - All WCs have an effective fluxh volume of 3 litres or less OR - All WCs have an effective fluxh volume of 3 litres or less OR - All WCs have an effective fluxh volume of 3 litres or less OR - All WCs have an effective fluxh volume of 3 litres or less OR - All WCs have an effective fluxh volume of 3 litres or less OR - All WCs have an effective fluxh volume of 3 litres or less OR - All WCs have an effective fluxh volume of 3 litres or less OR - All WCs have an effective fluxh volume of 3 litres or less OR - All Wcs have an effective little water. This can be provided on the flush control buttons, cistem, or nearby for a group of cistems. Third credit Of the following, the two that offer the greatest possible reduction in annual water consumption have been specificit: - All taps have a maximum flow rate less than 6 litres/inin for a water pressure of 0.3MPa and are one of or a combination of, timed automatic shur-off flops e push taps, electionic sensor taps, low flow storee down/lever taps or spary taps. - All stophese a maximum flow rate less than 6 litres/inin for a water pressure of 0.3MPa and are one of or a combination of, timed automatic shur-off taps e push taps, electionic sensor taps, low flow storee down/lever taps or spary taps. - All stophese a maximum flow rate less than 6 litres/inin for a water pressure of 0.3MPa and are one of or a combination of, timed automatic shure of the divevature of 33MPa and are one of a store specified, ha	GREEN	3	2	0	2	EF	МАКЕ	All A copy of the relevant section of the M&E specification and/or manufacturer's details confirming: • Technical specification for sanitary fittings (flow rate) and controls to be installed. Design plan showing the location within the building of the sanitary facilities. WC- Inushing should be either 4.5/Jit (for 1 credit) or 3it effective flush (for 2 credits). Urinals - Wateries or 1.51 per flush. Tags - the flow rate must be confirmed for the manufacturer and must be less than 81/min @ 0.3MPa	24/07/14: CREDIT AWARDED Validation Statement: The sanitary ware schedule (Ref 02) confirms the following flow rates. Additionally the email (Ref 04) confirms the number of each WC type. The flow rates and numbers are as follows: WC - 9 units Dual 6/4L WC - 1 Unit Dual 6/3L WH8 - 4L at 3 bar - input 2/3 - 2.68l/min at 3 bar Shower - 12L at 3 bar. This information has been inputted into the Wat 01 (Ref 01) and this confirms a water consumption rate of 4.39 cubic meters per person per year, which allows for two credits to be awarded. The drawing (Ref 05) confirms the location of all the sanitary ware. These two credits can be awarded.

<u>Ref.</u> <u>No.</u>	Description	<u>Criteria</u>	Credit Status	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA Stage Required	<u>Actionee</u>	Action/Evidence Required	<u>Comments</u>
Wat 2	Water meter	1 Credit is available where evidence provided demonstrates that a water meter with a pulsed output will be installed on the mains supply to each building/unit. Any ancillary buildings are metered separately with a pulsed meter. Note, an additional innovation credit (worth 159) can be awarded for meeting the exemplary level requirements, as follows: - Where a but meters are fitted to allow the metering of individual water-consuming plant or building areas, where demand in such areas will be equal to or greater than of 10% of the total water demand of the building. - Each sub meter has a pulsed output to enable connection to a Building Management System (BMS) for the monitoring of water consumption.	GREEN	1 +1 INNO.	1	0	1	F	GDMP Mech	All A copy of the specification clause confirming: • The specification and type of water meter(s).	16/04/14: 1 CREDIT AWARDED Validation Statement The Public Health Specification confirms that the water supply to the development will be fitted with a pulsed water meter. This credit can be awarded
Wat 3	Major leak detection	1 credit is available where a leak detection system capable of detecting major leaks on the water supply has been installed. The system must cover all mains water supply between and within the building and the leak detection system is: - Audibe when activated - Audibe when activated - Audibe when activated - Audibe here flow of water passes through the water meter/data logger at a flow rate above a pne-set maximum for a pne-set period of time - Able to identify different flow and therefore leakage rates, e.g. continuous, high and/or low level, over set time gendsd. - Where applicable, designed to avoid fable alarms caused by normal operation of large water consuming plant such as chillers.	RED	1	0	1	0	E-F	GDMP Mech	<ul> <li>18.2 A copy of the specification clause confirming:</li> <li>5 cope and performance requirements of leak detection system. NNJOR</li> <li>Manufacturer's details confirming:</li> <li>The technical specification the specified systems.</li> <li>You will have to include <u>Confirm the following:</u></li> <li>The system should he:</li> <li>a. Audible when activated</li> <li>b. Activated when the flow of water passes through the water meter/data logger at 8 flow rate above a pre-set printing of period time.</li> <li>c. Able to discuss the owner discussion is a flow rate above a pre-set prior of time.</li> <li>c. Able to discuss.</li> <li>c. Able to discuss.</li> <li>d. Programmable to suit the owner/occupier: water consumption requirements.</li> <li>e. Where applicable, designed to word flow abarro.</li> <li>o. Marrow applicable, designed to word flow abarrow flow flow and operation of large to word word abarrow and the set of the set operation.</li> </ul>	09/05/14: At meeting held with TTP, TTP asked whether this credit can be included in target. Verte asked GDMP in email dated 16/05/14. TBC. GDMP Mech advise that a water leak detection system does not form part of the project objectives.
Wat 4	Sanitary supply shut off	1.credit is available where solenoid valves are installed on the water supply to each toilet area in the building and the flow of water through that supply is controlled by a link to either: — Infir eter movement detectors within each toilet fadilly of — Sensors or switches placed at or on entry doors to each facility.	GREEN	1	1	0	1	E-F	GDMP Mech	1 A copy of the specification clause confirming: • The specification of shut-off values • The controls for the shut-off values. A design plan showing: • The location of the toilet facilities.	30/04/14: CREDIT AWARDED Validation Statement The specification document / BREEAM Compliance Document (Ref 01) provided by GDMP confirms the following: Solenoid valves shall be installed on the water supply to each tollet area in the building and the flow of water through that supply is controlled by a link to either an infra-red movement detectors within each tollet facility OR sensors or switches placed at or on entry doors to each facility. Shut-off systems may control combined tollet areas, such as male and female tollets within a core. Single WC shall have shut-off provided via the same switch that controls the lighting (whether proximity detection or a manual switch). This credit can be awarded.
Mat 1	Materials specification (major building elements)	Up to two credits are available for the specification if materials with low embodied environmental impact, determined by the Green Guide to Specification ratings for the major building elements. Applicable elements are: - External Walis - Windows - Nonfo - Upper Floor Stats	GREEN	4	4	0	4	E-F	МАКЕ	Please provide a breakdown of each applicable element description and area (squ.m) within the following major elements as well as a copy of full NBS: Ext Walls Roof Windows Upper floors AND The Green Guide rating and element number for the assessed specifications. Refer to assessor for further instruction if needed.	24/07/14: CREDIT AWARDED Validation Statement The architect provided the Mat 01 Table (Ref 01) which confirms the types of building elements (retained and new), the area in sqm, the green guide element number and green guide rating. Two bespoke green guide ratings (Ref 02 to 03) have been provided for the Luxcrete product and the ETFE. The manufacturer information has also been provided for these two products (Ref 04 to 06). This detail has been inputted onto the Mat 01 Calculator Tool (Ref 07), which confirms that 11.42 points can be achieved and that 4 credits can be awarded. Drawings confirming the location of the retained and new building elements have been provided (Ref 08 to 13). Four credits can be awarded.
Mat 2	Hard landscaping and boundary protection	One credit where evidence provided demonstrates that at least 80% of the combined area of external hard landscaping and boundary protection specifications achieve an A or A+ rating, as defined by the Green Guide to Specification.	RED	1	0	1	0	D	MAKE	Specification confirming: • A detailed description of each applicable element and its constituent materials. Design drawings or specification detailing: • Location and area (m2) of each applicable element. The Green Guide rating and element number for the assessed specifications.	04/08/14: The current spec is non compliant. Verte to issue query to the BRE and check whether we can achieve the credit with a sub-base. Also Make to check if an A-rated material can be selected. 02/07/14: Make confirmed the GGR for the external area: Reinforced concrete laid in situ (100mm) over prepared recycled sub-base 824130028 B Rating - This places the credit at risk, and Verte have asked whether this can be changed to an A/A+ rated option.
Mat 3	Re-use of building façade	One credit is awarded where evidence provided demonstrates that at least 50% of the total facade (by area) is reused and at least 80% of the reused facade (by mass) comprises in-situ reused material.	GREEN	1	1	0	1	D	MAKE	<ol> <li>8.2. Drawings detailing:</li> <li>The elevations of the existing and the new-build facades. Calculations demonstrating:</li> <li>The &amp; of facade comprising in situ material. These acalculations should be simply based on the volume of each material and its density, with totals compared for the new and retained parts of the structure.</li> </ol>	17/06/14: CREDIT AWARDED Validation Statement The letter (Ref 01) provided by Make Architects confirms that 50% of the total final building façade by area is reused. Additionally they also confirm that more than 80% of the re-used facade, by mass, comprises of in-situ re-used materials. This credit can be awarded.

<u>Ref.</u> <u>No.</u>	Description	<u>Criteria</u>	Credit Status	<u>Credits</u> <u>Available</u>	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA Stage Required	<u>Actionee</u>	Action/Evidence Required	<u>Comments</u>
Mat 4	Re-use of building structure	One credit is awarded where evidence provided demonstrates that a design reuses at least 80% of an existing primary structure and for part refurbishment and part new build, the volume of the reused structure comprises at least 50% of the final structure's volume.	GREEN	1	1	0	1	D	MAKE	<ol> <li>2. Drawings or design team calculations detailing:</li> <li>The sections of the auxiliag structure to be reased.</li> <li>Any parts of the structure to be denollahed and the total new structure.</li> <li>Where appropriate, calculations confirming any strengthening/alteration are not deemed significant' in terms of the assessment criteria for the mass of materials used.</li> </ol>	17/06/14: CREDIT AWARDED Validation Statement The letter issued by Akera (Ref 01), the structural engineers, confirms that that at least 80% by volume of the existing primary structure is reused without significant strengthening or alteration works. This credit can be awarded.
Mat 5	Responsible sourcing of materials	Up to 1 credits are available where evidence provided demonstrates that 80% of the applicable materials (listed within the BREEAM manual) comprising each of the following building elements are responsibly sourced: a. Structural Frane b. Ground floor c. Upper Hoors (including separating floors) d. Roof f. Internal walls f. Internal walls f. Franctascher b. Starrasie	RED	3	1	0	0	EF	МАКЕ	1. A last 80% of the following applicable materials computing the building element (including clary likes and other commut.)     b. Reish-based composites and materials, including GP and polymeric render is Concrete (including in-situ and pre-cast concrete, blocks, tiles, motars, credient (including in-situ and pre-cast concrete, blocks, tiles, motars, credient (including in-situ and pre-cast concrete, blocks, tiles, motars, credient (including pre-cast concrete, blocks, tiles, motars, credient) (including pre-cast concrete, blocks, tiles, motars, such as coofing membranes and asphalt (including applicable materials of pre-cast concrete) (including applicable materials, includent) (including the content of the above materials by pre-create print for form) (including appendient) (including appendient) (including the content of the above materials by pre-create print for form) (including pre-cast print for form) (including the content of the above materials by pre-create print for form) (including pre-cast print for form) (including pre-cast print for form) (including pre-cast print for form) (including the content of the above materials by pre-cast print walls (including pre-cast print for form) (including the content of the above materials by pre-cast print for form) (including the content of the above materials by pre-cast print for form) (including the content form) (including the content of the above materials by pre-cast print for form) (including the content of the above materials by pre-cast print above) (including the content of the above materials by pre-cast print the following applicable materials (including the content of the c	<ul> <li>11/08/14: Email from TTP confirms the potential use of London Concrete or Hanson (both contain recycled content and are BES 6001). Once TTP finalise recycled content of 25% and which option they shall go for, Verte to issue template letter and Mat 05 Table for completion.</li> <li>11/08/14: Verte to issue internal wall requirements to TTP.</li> </ul>
Mat 6	Insulation	First Credit Where evidence provided demonstrates that thermal insulation products used in the building have a low embodied impact relative to their thermal properties, determined by the Green Guide to Specification ratings. Second Credit Where evidence provided demonstrates that thermal insulation products used in the building have been responsibly sourced.	AMBER	2	2	0	0	Ef	Make/GDMP	Part covered in Prelims. Please provide: 1:4 Market-up design plan/elevations and/or a copy of the specification confirming: - The location of insulating materials. - The area (m2) and thickness (m) or volume (m3) of insulation specified. Manufacturer's technical details confirming: - Thickness and thermal conductivity of the insulating materials specified. A copy of the output from the insulation index Calculator Tool. The Green Contrasting and element number for the assessed insulation specifications: 5 Evidence (as outlined in Mat 5) confirming compliance for the insulating materials.	Pending Information: GDMP: Any new building fabric (floor insulation) and building services insulation should be inputted into the Mat 06 Table provided by Verte. Marked up drawings / schematics are required confirming the location of the insulation types (these can be limited to hand mark ups signed and dated). Verte can provide additional assistance with compiling the Mat 06 Table. GDMP Note: XPS is not considered compliant by the BRE as it is E rated. There is however an A rated XPS produced by Dow, and this performs better than other XPS insulation types as CO2 is the blowing agent used. Celotex is also considered compliant. GDMP Note: For refrigerant pipework no nitrile rubber should be used (Armaflex). Products such as Kingspan Tarec/GRM Betaplus/Mineral fibre are ok. Validation Statement The drawing provided by Make Architects (Ref 08) confirms the location of the insulation specified. The Mat 06 Table (Ref 07) also completed by Make Architects also confirms the types on insulation specified, the area, thickness, thermal conductivity, green guide to specification rating and responsible sourcing. The manufacture information for the Koolterm and Isover produces confirms the detail (Ref 01 and Ref 04). The relevant responsible sourcing information and certificates have also been provided for the Koolterm and Isover products (Ref 02 to 03 and Ref 05 to 06). MAKE advise that minimal new building fabric insulation is expected, primarily for

Ref. No.	Description	Criteria	<u>Credit</u> <u>Status</u>	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA Stage Required	Actionee	Action/Evidence Required	Comments
Mat 7	Designing for robustness	1. credit is available where: internal and external areas of the building where vehicular, trolley and pedestrian movement accur have been identified. Suitable durability and protection measures or design features have been specified to prevent damage to the valuesable parts of these building areas from such traffic. This must ne. Protection against any internal vehicular/todies rel.). In Protection against any internal vehicular/todiey movement within 1m of the internal building fabric in storage, delivery, confider and kitchen areas. - Drotection against any internal vehicular/todiey movement within 1m of the internal building fabric in storage, delivery, confider and kitchen areas. - Drotection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas.	GREEN	1	1	0	1	D-F	Маке	Please provide: 182 Design drawings marked up to Illustrate: • Vulnerable area/parts of the building. a Protection from the effects of high pederation traffic in main entrances, public areas and theroughbars (cordioa). Ifst, stars, doors etc.]. b. Protection against any internal vehicular/troller movement within 1m of the internal building fahcin is storage, dollway, condra and alfolden areas. c. Protection against any prevention from, any zotential vehicular collision where vehicular parking and manoeuvring accurs within 1m of the external building facele for all car parking areas and within 2m for al delivery ureas. 2 Design drawings and for specification confirming: • The durabity messure is specified. Suitable durabitity and protection messures to vulnerable parts of the building can include: • Building Specified Section to delivery and vehicle drop-off areas • Bublast specified to construction, up to 2m high Cornifor with specified to corniforms • Kick place/mack to reaction from tolery etc.] on doors • Kick place/mack to reaction from tolery etc.] on doors • Kick place/mack to reaction finds to wild for finishes in heavity used circulation areas (i.e. main entrance, comdors, public areas etc.)	17/06/14: CREDIT AWARDED Validation Statement The drawings provided by Make (Ref 01 to 03) confirms the location of the floor types. The detailed drawings (Ref 04 to 05) confirms the build ups of the floor types and the Finishes Schedule (Ref 06) confirms the actual floor finishes specified. All floor finishes are considered to be hard wearing and easy to clean. The stair finishes are confirmed within the Finishes Schedule (Ref 06) and these are confirmed to be metal. The stairs are indicated on the drawing provided (Ref 07). The detailed drawings (Ref 08 to 09) confirm the doors specified and the Finishes Schedule (Ref 06) confirms the doors being specified. The marked up drawing (Ref 10) provided by Make Architects confirms the vulnerable areas on the development and the protection measures being implemented. This credit can be awarded,
Wst 1	Construction site waste management	<ul> <li>b) to there credits are available when:</li> <li>b) there steels as SMMP that context:</li> <li>a) The target benchmark for resource efficiency i.e. m3 of waste per 100m2 or tonnes of waste per 100m2</li> <li>b) Proceedures for monitoring measuring and reporting haardoous waste in line with the benchmark concentry for the source of the sou</li></ul>	GREEN	4	3	0	3	CF	Contractor/P relims	A copy of the compliant Site Waste Management Plan containing the appropriate benchmarks, commitments and procedures. Where relevant, a copy of the predemolition/ pre-refurbishment audit. OR A copy of the specification clause that: • Requires the principal contractor to produce a SWMP in line with the requirements • contains the detailed requirements with respect to resource efficiency benchmarks and target[3] and procedures to be included in the SWMP • Where relevant, requires the principal contractor to carry out a pre- demolition/pre-refurbishment audit. OR A letter from the client or their representative containing • confirmation that the specification will contain a clause on site waste management requirements. • a no union of the detailed requirements that will be included in that specification clause.	MAKE confirm that the will be achieved. 15/0/474: THRE CREDITS AWARDED / Prelims. Validation Statement The Main Contractor Prelims confirm that the Main contractor must ensure that construction waste is minimised throughout the site works. The Contractor must create a Site Waste Management Plan (SWMP) that contains the following: - The target benchmark for resource efficiency set for this project which must be no greater than 6.5 tonnes of non-hazardous construction waste per 100m2 of gross internal floor area of the proposed building. - Procedures and commitments for minimising non-hazardous waste in line with the benchmark - Procedures for monitoring, measuring and reporting hazardous and nonhazardous site waste - Procedures for sorting, reusing and recycling construction waste into defined waste groups, either on site or through a licensed external contractor - The name or job title of the individual responsible for implementing the above. - The Contractor must provide a copy of the compliant SWMP to the BREEAM Assessor. In addition the contractor will ensure that: A tleast 75% by weight or 65% by volume of non-hazardous construction waste generated by the project will be diverted from inandiil and either: a. Reused on site (in-situ or for new applications) b. Reused on other sites - Salvaged/reclaimed for reuse
Wst 2	Recycled Aggregate	1 credit is available where the amount of recycled and secondary aggregate specified is over 25% (by weight or volume) of the total high-grade aggregate uses for the building. Such aggregates can be either obtained on site, or obtained from waste processing site) within a 30km radius of the site, or secondary aggregates obtained from a non-construction post-consumer or post-industrial by product source.	AMBER	1	1	1	0		MAKE	A copy of the relevant specification or contract clause confirming: • Recycled and secondary aggregate use criteria for the project. A letter from the design team or main contractor confirming: • The source of recycled/secondary aggregates • The amount and quality required can be obtained from this source.	Pending Information: A letter from TTP confirming that the secondary aggregate from non construction based industries shall be used on this development. This shall comprise more than 25% of total aggregate used.
Wst 3	Storage of recyclable waste	1 Credit is available where a central dedicated space is provided for the storage of the building'r excycluble waste streams generated during operation. The dedicated space: - nucl cater for the separation and storage of a minimum of 6 different types of recycluble materials. - is clearly lubelled for recycling - no placed within accessible reach of the building - no sized according to the number and area of retail units that it will serve and the predicted volumes of waste that will area from those areas - is in a location with good vehicular access to facilitate collections.	RED	1	1	0	0	E-F	MAKE	All Marked-up building/site plan and/or copy of the specification confirming: The location of the dedicated recyclable storage area • Storage area for general waste • The area (m2) of the storage space(s) • Description of the labelling.	Pending Information: A marked up drawing confirming the area allocated to general waste (no specific area defined by BRE), area of 2sqm allocated to recycling and confirmation that appropriate labelling will be provided. Based on 1000sqm, 2sqm for recyclable waste. MAKE to provide statement confirming requirements as well as a draft drawing indicating location and size of area.
Wst 6	Floor Finishes	One credit where carpets and other floor finishes are specified by the future occupant or, in tenanted areas of speculative buildings, where carpets or floor finishes are installed in a limited show area only.	GREEN	1	1	0	1	D-E	MAKE	<ol> <li>8.2. Marked-up design plans and a copy of the specification confirming:</li> <li>The type and coverage (m2) of any specified floor finishes.</li> <li>Where the future occupant is known, a letter from the client or design team confirming:</li> <li>That the type and coverage of carpets and other floor finishes have been specified (or agreed to) by the future occupant/client.</li> </ol>	17/06/14: CREDIT AWARDED Validation Statement The drawings (Ref 01 and Ref 02) provided by Make confirm the location of the different types of floor finishes. The letter provided by Make Architects (Ref 03) confirms that they are both the architects and the future tenants on this development and that as future tenants they have selected all specified floor finishes. This credit can be awarded.

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Le 1	Reuse of Land	1 Credit is available where at least 75% of the proposed development's footprint is on an area of land which has previously been developed for use by industrial, commercial or domestic purposes in the last 50 years.	GREEN	1	1	0	1	A	MAKE	Existing site plan, report or site photographs confirming: • Previous land use. • Area (m2) of previous land use. 1 Proposed site plan showing. • Location and footprint (m2) of proposed development and temporary works.	16/04/14: 1 CREDIT AWARDED Validation Statement The Lower Ground Floor Plan (Ref 01) and the Ground Floor Plan (Ref 02) confirms that boundary of the proposed development. The existing floor plan drawing provided confirms that there is no change to the floor site plan. This credit can be awarded.
Le 3	Ecological Value of Site and Protection of Ecological Features	1 Credit is available where the construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and Construction works.	GREEN	1	1	0	1	С-F, Н	MAKE	<ul> <li>18.2 A completed copy of checklist A4 signed and dated by the client, their representative or a design team member e.g. architect.</li> <li>AND</li> <li>One of the following:</li> <li>A plan and/or site photographs of the existing site highlighting any ecological features OR</li> <li>A copy of the ecologist's report containing:</li> <li>• confirmation that the land within the construction zone is of low ecological value.</li> <li>• A description of any ecological features within the site or on the site boundary.</li> <li>• Date(si) of site surve(s).</li> <li>A completed, signed copy of sections: A and B of checklist A6 'Guidance for relating ecology reports to BREEAM' to confirm the ecologist's professional statut OR</li> <li>A copy of the ecologist's report containing the information in sections A and B from the above.</li> </ul>	16/04/14: 1 CREDIT AWARDED - Ecology Report Validation Statement An Ecology Report (Ref 01) was provided by Greengage, the ecologist, which confirms that they carried out a site visit prior to any works commencing on site. The report also provides the Ecologist's qualifications of both the person who carried out the site visit and the person who reviewed the report. These confirm they are suitably qualified as per BREEAM requirements. The report confirms that there are no features of ecological value that require protection. This credit can be awarded.
Le 4	Mitigating Ecological Impact	1 Credit is available where evidence provided demonstrates that the change in the ste's existing ecological second and a sound of development, is minimal. 2 Credits are available where evidence provided demonstrates that there is no negative change in the ste's existing ecological value as a result of development.	GREEN	2	2	0	2	D-E	МАКЕ	First & Second Credit 1,2 & 3 Existing and proposed site plans and, if required, maps and aerial photographs confirming: • Landscape and vegetation plot types • Area (m2) of vegetation plot types AND A completed copy of Ecology Calculator 1. 1,2 & A A copy of the suitably qualified ecologist's report confirming prior to and after the development: • Landscape and vegetation plot types • AND A completed, signed copy of checklist A6 – Relating ecology reports to BREEAM OR a copy of the ecology report containing the information outlined in checklist A6: AND A completed copy of Ecology Calculator 2.	16/04/14: TWO CREDITS AWARDED - Ecology Report Validation Statement An Ecology Report (Ref 01) was provided by Greengage, the ecologist, which confirms that they carried out a site visit prior to any works commencing on site. The report also provides the Ecologist's qualifications of both the person who carried out the site visit and the person who reviewed the report. These confirm they are suitably qualified as per RREEAM requirements. The report confirms that the proposed development is located in a predominately urban environment with very limited external areas within the boundary of the assumed that the development will not lead to a negative change in ecological value of the site. The full 2 credits can therefore be awarded for LEO4 "Mitigating Ecological Impact". These two credits can be awarded.
Le 5	Ecological Value of Site and Protection of Ecological Features	3 credits are available where: Fact credit A suitably qualified ecologist (SQE) has been appointed to report on enhancing and protecting the ecology of the site and: a. The SQE provides an Ecology Report with appropriate recommendations for protection and enhancement of the site's ecology. B. The report is based on a site visit/survey by the SQE prior to the commencement of initial site preparation works. The general recommendations of the Ecology Report for enhancement and protection of site ecology have been, or will be, inplemented. Second credit The first credit is achieved. The first credit is achieved. The recommendations of the Ecologit Report for enhancement and protection of site ecology have been implemented, and the suitably qualified ecologist confirms that this will result in an increase in ecological value of the site up to (but not including) 6 plant species. The increase in plant species has been calculated using Ecology calculator 2, using actual species numbers. Third credit The recommendations of the Ecology Report for enhancement and protection of site ecology have been first excell is achieved. The increase in plant species. The increase in plant species has been calculated using Ecology calculator 2, using actual species the recommendations of the Ecology Report for enhancement and protection of site ecology have been the recommendations of the Ecology Report for enhancement and protection of site ecology have been the recommendations of the Ecology Report for enhancement and protection of site ecology have been more provided the suitably qualified ecologist confirms that this will result in an increase in momented, and the suitably qualified ecologist confirms that this will result in an increase in momented, and the suitably qualified ecologist confirms that this will result in an increase in momented.	GREEN	3	1	0	1	CF	Ecologist	First Credit           1 A copy of the ecologist's report containing:           • Testial and scope of the site survey.           • Information as outlined in checklist A6 – Relating ecology reports to IBREAM.           OR           A copy of the ecologist's report containing a completed, signed copy of checklist A6.           2 Proposed site plan highlighting implementation of the ecologist enhancement recommendations.           AND           On of the following:           A copy of the relevant section of the specification requiring the main contractor to implement the SQE's recommendations for protection and enhancement OR           A letter from the client or design team member confirming:           • That the specification wirequiring the main contractor to implement the SQE's recommendations.           Second & Third Credit           •13 Evidence as outlined above, confirming compliance with the first credit.           •13 Evidence as outlined above, confirming compliance with the first credit.           •14 A copy of the SQE's report containing the information outlined in checklist A6 – heating ecology reports to BEEAM.           OR           •14 SQE's report containing the compliance with the first credit.           •15 Vidence as outlined above, confirming compliance with the first credit.           •15 Vidence as outlined above, confirming compliance with the first credit.           •15 Vidence as outlined above, confirming compliance with the first credit.     <	16/04/14: 1 CREDIT AWARDED Validation Statement An Ecology Report (Ref 01) was provided by Greengage, the ecologist, which confirms that they carried out a site visit prior to any works commencing on site. The report also provides the Ecologist's qualifications of both the person who carried out the site visit and the person who reviewed the report. These confirm they are suitably qualified as per RREEAM requirements. The proposed development's urban location means that it is enclosed by buildings on 3 sides with very limited external space at street level. Potential enhancements are also limited by the nature of the proposed development which comprises the conversion of a basement car park into office space. Consequently, given the lack of available root space associated with the conversion of a basement car park, and the sites urban location there were no ecological enhancements that were deemed appropriate. With no increase in plant species number and no additional ecological enhancements deemed appropriate, only 1 credit can be awarded for LEOS Enhancing Site Ecology'. 1 credit can be awarded.

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Le 6	Mitigating Ecological Impact	One credit can be awarded where there is a commitment to achieve the mandatory criteria and at least two of the additional criteria (listed within the BREEAM Manual). Two credits can be awarded where there is a commitment to achieve the mandatory criteria and at least four of the additional criteria (listed within the BREEAM Manual).	GREEN	2	2	0	2	F, H-K	Ecologist	First & Second Credit Mandatory Requirements 18.2 The SQL report or letter confirming: • That they were appointed prior to commencement of activities on site. • All relevant Us and EU ligitations will be complied with. AND A completed, signed copy of checklist A6 - Relating ecology reports to BREEMA 3 A copy of the site management plan. Additional Requirements Where not yet appointed, a copy of the specification clause requiring the appointment of a biodiversity champion. Where not yet appointed, a copy of the specification clause requiring the appointment of a biodiversity champion. Where not yet appointed, a copy of the specification clause requiring the training of the site's workforce. Where not yet appointed, a copy of the specification clause usubling the contractor's monitoring and reporting requirements. 4 A copy of the proposed site plan highlighting the new ecologically valuable habitat. A SQL's report or letter confirming: • Widdlers appoint or letter confirming the works to minimie disturbance.	16/04/14: 1 CREDIT AWARDED Validation Statement An Ecology Report (Ref 01) was provided by Greengage, the ecologist, which confirms that they carried out a site visit prior to any works commencing on site. The report 180 provides the Ecologist's qualifications of both the person who carried out the site visit and the person who reviewed the report. These confirm they are suitably qualified as per BREEAM requirements. The ecology report confirms the following: - The client team have appointed a SQE to produce this report prior to commencement of works on site; - The ecologist confirms that all relevant UK and EU legislation relating to protection and enhancement of ecology should be complied with during the design and construction process. Although the development will not impact wildlife, due to the negligible or invo potential for protected species on site, requirements have been included confirming the relevant protection of ecological features guidance in section 7.0 of the report. - As the creation of new habitat is not proposed for this development, a Landscape & Habitat Management Plan is not deemed necessary.
Pol 1	Refrigerant GWP - Building services	1 credit is available where: The building has no refigerants OR The refigerants used within the building services have a GWP less than 5.		1	0	0	0	E-F	GDMP Mech	18.2 A copy of the specification clause confirming either: • Absence of refrigerant in the development OR • Type(s) of refrigerant to be used. AND Manufacturer's information confirming: • GWP of each refrigerant.	This credit is not deemed achievable.
Pol 2	Preventing refrigerant leaks	First Credit - Refrigerant leak detection The building has no refrigerants GR Systems using refrigerants are contained in a moderately air tight enclosure (or a mechanically weithatel plan toronal, and a refrigerant leak detection system is installed covering high-risk parts of the plant. An anomalic permanent driftgerant leak detection system is installed covering high-risk parts of micropic of detecting or measuring the concentration of refrigerant in air. Second Credit - Refrigerant to the plant common (or nectores) the automatic students and guing down of refrigerant on air. Second Credit - Refrigerant in the plant room (or nectourse) compl. Automatic journed-moderately at risk plant room (or nectourse) compl. Automatic Journed-More automatic stude plant room (or nectourse) compl. Automatic Journed-More automatic stude to a maximum of 2000ppm (0.2%), but lower levels an be set. The credit cannot be awarded for manual systems.		2	0	0	0	E.F	GDMP Mech	<ol> <li>A copy of the specification clause or design plan confirming:</li> <li>A basence of refrigerants in the development.</li> <li>A copy of the specification clause or letter from the M&amp;E engineer copy of the specification clause or letter from the model of the specification clause or letter from the M&amp;E engineer confirming:</li> <li>Yope of the system(3).</li> <li>Yope and the system(3).</li> <li>Yope and the system(3).</li> <li>Yope and the system of automatic refrigerant recovery equipment.</li> <li>Details of the plant room endosure where the refrigeration plant is installed</li> <li>Alarm threshold for triggering automatic pump down.</li> </ol>	This credit is not deemed achievable.
Pol 4	NO <sub>x</sub> emissions from heating source	Up to 1 credits are available where manufacturer's details demonstrate that the plant installed to meet the building's space heating demand has dry NOA emission levels as follows: a. One credit where the dry NOA emissions from delivered space heating energy are s100 mg/NWh (at 0% excess 0.1). b. Two credits where the dry NOA emissions from delivered space heating energy are s20 mg/NWh (at 0% excess 0.2). C. Three credits where the dry NOA emissions from delivered space heating energy are s40mg/NWh (at 0% excess 0.2). The emissions should be estimated under normal operating conditions (not standby).		3	0	0	0	E-F	GDMP Mech	1 A copy of the specification clause confirming: • Type of heating system(c), inttaled. For each system specified, a letter (-mail or filterature from the manufacture(s) confirming: • Dry NDx emissions rate in mg/XWh. (@ 0% Oxygen) If more than one system is providing heat, design team calculations confirming: • The average NDx emission rate.	No gas heating, VRF. This credit can therefore not be achieved.
Pol 5	Flood risk	2 credits are available where the assessed development is situated in a Tood some that is defined as having a low annual probability of flooding and a site specific Flood Risk Assessment (FRA) confirms that there is a low risk of flooding from all sources. OR 1 Credit is available where the assessed development is located in a zone defined as having a medium annual probability of flooding and the ground level of the building, car parking and access is above the design flood level for the site's location. In addition, a site specific Flood Risk Assessment (FRA) confirms to the satisfaction of the local authority and statutory body that the development is appropriately flood resilient and resilient and resilient and sources of flooding An additional Credit is available where evidence provided demonstrates that surface water run-off attenuation.	GREEN	3	3	0	3	D-F	MAKE	Please provide: First & Second Credit I A copy of a flood map or flood risk assessment confirming: Flood zone or annual probability of flooding in the site location. Where appropriate, correspondence from the appropriate statutory body confirming: Reduced annual probability of flooding due to existing flood defences. A copy of the Flood Risk Assessment. Site plant/sections confirming: The design flood level for the site The design ground level(j) for diveloped areas of the site. Safe access and escape routes Additional SUGS Credit 18.2 Site plant, so and a copy of the specification or consultants report confirming: Plant and a cheer under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation measures Plant) area of here under a (or the vater run-off attenuation run off attenuation area off attenuation off attenuation run off attenuatio	17/04/14: Three credits awarded based on FRA provided. Validation Statement The compliant Flood Risk Assessment (Ref 01) provided by GLNK, confirms that the site is located in a Flood Zone Type 1. Additionally the report confirms that the site is at low risk of flooding from all sources. The first two credits can be awarded. The Flood Risk Assessment also confirms that the development consists of internal changes to an existing basement and there is therefore no increase in the impermeable areas. This third credit can therefore be awarded by default as per Compliance Note 2. Three credits can be awarded.

<u>Ref.</u> No.	Description	<u>Criteria</u>	Credit Status	Credits Available	Predicted Credits	Enhanced Credits	Achieved Credits	RIBA Stage Required	Actionee	Action/Evidence Required	<u>Comments</u>
Pol6	Minimising Water Course Pollution	The following demonstrates compliance: 1. Specification of Sustainable Drainage Systems (SUDA) or source control systems such as source of watercourse infiliation trenches where nun-off drains are in areas with a relatively low risk source of watercourse pollution. 2. Specification of oil/petroi separators (or equivalent system) in surface water drainage systems, where there is a high risk of contamination or spillage of substances such as petrol Compliance Notes for a list of areas). 3. I water pollution prevention systems have been designed and detailed in accordance with the recommendations of Pollution Prevention Guideline 377 and where applicable the SUDS manual78. 4. A comprehensive and up-to-date drainage plan of the site will be made available for the building/site occupiers.	GREEN	1	1	0	1	D-F	GDMP Mech	1&2 Marked-up proposed site plan highlighting: - Low and high risk areas of the site. A copy of the specification or design plan confirming: - Type of pollution control systems specified. 3&4 A letter from the design team confirming: - A copy of the drainage plan will be produced and handed over to the building occupier.	16/04/14: 1 CREDIT AWARDED Validation Statement The general arrangement drawings for the lower ground floor and the ground floor (Ref 01 to 02) indicate that there is no external area to this development. The mechanical drawings (Ref 03 to 04) and mechanical schedule (Ref 05) indicate that none of the equipment specified can act as a source of water course pollution. This credit can be awarded
Pol 7	Reduction of night time light pollution	<ol> <li>The external lighting strategy has been designed in compliance with Table 1 (and its accompanying notes) of the LE Guidance notes for the reduction of obtrusive light, 200379, (see Additional Information below – sludings located in Scotland must also refer to the Compliance Notes below for additional criteria).</li> <li>All external lighting (except for safety and security lighting) can be automatically switched off between 200ths and 000ms; This can be achieved by providing a time for all external lighting set to the appropriate hours.</li> <li>If addet or security lighting is provided and will be used between 2300ms and 0700hrs; this part of all addet or security lighting is provided and will be used between 2300hrs and 0700hrs; this part of the lighting system complex with the lower levels of lighting recommended during these hours in Table 3 of the LES doubtance notes, for example by using an automatic switch to reduce the 4. Illianniated advertisements, where specified, must be designed in compliance with LE Technical Report 5 – The Brightness of Illuminated Advertisements80.</li> </ol>	GREEN	1	1	0	0	Ŀf	GDMP Elec	REQ 1-4 A marked-up copy of the site plan showing: - Areas of the building and site that will be external lighting design confirming - Any nearby properties. A copy of the specification clause requiring, or external lighting design confirming - The external lighting design in compliance with Table 1 of the LE Guidance notes - Controls for all external lighting. - Illiminated advertisements designed in compliance with ILE Technical Report 5 (if relevant). - In the case of the external lighting design, the M&E engineer or lighting designer must provided indicative examples of where and how the strategy complies with the assessment criteria.	30/04/14: CREDIT AWARDED Validation Statement The specification document / BREEAM Compliance Document (Ref 01) provided by GDMP confirms the following: The external lighting strategy shall been designed in compliance with Table 1 (and its accompanying notes) of the ILE Guidance notes for the reduction of obtrusive light, 2005. All external lighting (except for safety and security lighting) can be automatically switched off between 2300hrs and 0700hrs. This can be achieved by providing a timer for all external lighting set to the appropriate hours. If safety or security lighting is provided and will be used between 2300hrs and 0700hrs, this part of the lighting system shall comply with the lower levels of lighting recommended during these hours in Table 1 of the ILE's Guidance notes, for earnier. Illuminated advertisements, where specified, shall be designed in compliance with ILE Technical Report 5 – The Brightness of Illuminated Advertisement. Flush stud lights used for safety purposes in vehicle manoeuvring areas may be excluded from the above requirements. The above requirements do not apply to any specific security lighting, where there
Pol 8	Noise attenuation	1 credit is available where: 1. There are, or will be existing noise-sensitive areas or buildings within 800m radius of the assessed development. Where there are or will be no noise-sensitive areas or buildings in the locality of the assessed development, the credit can be awarded by default. 2. A noise impact assessment in compliance with B5 4142:1957 has been carried out and the following noise levels maxima (determined). 3. Disting background noise levels at the nearest or most exposed noise-annitive development to the proposed development or at a location where background notions can be angued to be similar. 5. Disting background noise level exist the nearest or most exposed noise-annitive development to proposed development or at a location where background conditions can be angued to be similar. 5. Disting the proposed development; or at a location where background conditions can be assessment must be careful out by a suitable qualified association and membership of a papropriate professional body (see relevant definitions in the additional guidance escion). 3. Where the rating level of the noise source(s) from the site/building is guester than the background noise level, measures have been installed to a tartuat the noise additional guidance settion. 4. Where the rating level of the noise source(s) from the site/building is guester than the background noise level, the credit can be awarded. 5. Where the rating level of the noise source(s) from the site/building is guester than the background noise level, the credit can be awarded. 5. Where the rating level of the noise source(s) from the site/building is guester than the background noise level, the credit can be awarded. 5. Where the rating level of the noise source(s) from the site/building is guester than the background noise level, the credit can be awarded. 5. Where the rating level of the noise source(s) from the site/building is guester than the background noise level, the credit can be awarded. 5. Where the rating level of the noise source(s) fro		1	0	0	0	сĐ	МАКЕ	Please provide: 1 Ste plan highlighting: 3 All existing an oproposed noise sensitive buildings local to, and within, the site boundary 9 Proposed sources of noise from the new development 9 Distance (m) from the buildings to the assessed development. 283 A copy of the accellation clause requiring: A copy of the specification clause requiring: A noise assessment in compliance with B5 142:1997 by a suitably qualified acoustician. OR A formal fieter from the client or design team confirming that they will appoint an acoustician is report with recommendations for noise attenuation measures. A mande-dup design plan highlighting the specification of the acoustician's A mande-dup design plan highlighting the specification of the acoustician's OR A mande-dup testimation measures commendations for noise attenuation measures. OR A mande-turing testimation measures recommended by an appointed suitably qualified acoustician will be installed.	Noise attenuation assessment does not form part of project objectives.